What is claimed is:

1. A portable communication system for use with a communication apparatus having a sound output device, the system comprising:

an infrared transmitter apparatus, wherein the infrared transmitter apparatus comprises:

a microphone to generate an audio signal from received sound input,

at least one infrared light emitting device,

modulation circuitry operable to convert the audio signal to one or more constant width electrical pulses to drive the infrared light emitting diode to transmit one or more corresponding constant width infrared pulses, and

a transmitter housing enclosing the microphone and modulation circuitry and upon which the at least one infrared light emitting device is mounted, wherein the transmitter housing is configured to be removably coupled to the communication apparatus such that the microphone is positioned adjacent the sound output device of the communication apparatus; and

an infrared receiver apparatus, wherein the infrared receiver apparatus comprises:

an infrared light detection device to detect the one or more corresponding infrared pulses and generate one or more electric signals representative of the detected infrared pulses,

a speaker,

demodulation circuitry operable to convert the one or more electric signals representative of the detected infrared pulses to an audio signal to power the speaker to produce a sound output, and

a receiver housing enclosing the speaker and the demodulation circuitry and upon which the infrared light detection device is mounted,

wherein the receiver housing is formed to be self-supported entirely by the ear of a user.

2. The system of claim 1, wherein the transmitter housing is sized for positioning of the microphone adjacent a speaker of a phone apparatus.

3. The system of claim 2, wherein the transmitter housing includes means for removably attaching the housing to the phone apparatus.

4. The system of claim 3, wherein the attachment means includes an opening sized to fit over an end of a phone apparatus.

5. The system of claim 3, wherein the attachment means includes an adjustable band element to attach the housing to a phone apparatus.

6. The system of claim 1, wherein the receiver housing comprises an in the ear receiver housing securable within the concha of the ear.

7. The system of claim 1, wherein the receiver housing comprises a behind the ear receiver housing securable by the pinna of the ear.

8. The system of claim 1, wherein the receiver housing comprises:

a first portion including a behind the ear element and a speaker holding element having an opening defined therethrough, wherein the speaker holding element includes speaker contacts; and

a second portion encompassing the speaker, wherein second portion is sized to be retained within the opening and includes speaker contacts for mating with the speaker contacts of the speaker holding element.

9. The system of claim 1, wherein modulation circuitry comprises:

pulse width modulation circuitry to convert the audio signal using a carrier signal to one or more width modulated pulses, wherein the width of the one or more pulses is varied as a function of the audio signal;

an edge detect circuit to detect the edges of the one or more width modulated pulses and generating constant width pulses based on the detected edges; and

a pulse driver circuit to drive the infrared light emitting device.

10. The system of claim 1, wherein demodulation circuitry comprises:

pulse detection circuitry to convert the one or more electrical signals representative of the detected infrared pulses to one or more constant width pulses based thereon;

pulse width convertor circuitry to convert the one or more constant width pulses to one or more width modulated pulses; and

pulse width modulation circuitry to convert the one or more width modulated pulses to an audio signal for application to the speaker.

11. The system of claim 10, wherein the pulse detection circuitry comprises:

an amplifier configuration to provide symmetrically opposed polarity electrical pulses corresponding to each of the one or more electrical signals representative of the detected infrared pulses; and

a comparator to generate a constant width pulse each time symmetrically opposed polarity electrical pulses are applied thereto.

12. The system of claim 10, wherein the pulse width convertor circuitry comprises a divide by two circuit.

13. The system of claim 10, wherein the receiver further comprises missing pulse detection circuitry comprising:

detection circuitry to detect the absence of constant width pulses; and

disable circuitry to disable one or more components of the receiver upon detection of such absence of constant width pulses.

14. The system of claim 1, wherein the transmitter apparatus further comprises a sound activated power circuit to power one or more components of the transmitter upon detection of sound input.

15. The system of claim 1, wherein the one or more constant width electrical pulses to drive the infrared light emitting device are less than about 2 microsecond in duration.

16. The system of claim 15, wherein the one or more constant width electrical pulses to drive the infrared light emitting device are less than about 1 microsecond in duration.

17. A portable infrared transmitter apparatus for use with a communication apparatus having a sound output device, the apparatus comprising:

a microphone to generate an audio signal from received sound input;

at least one infrared light emitting device;

modulation circuitry operable to convert the audio signal to one or more constant width electrical pulses to drive the infrared light emitting diode to transmit one or more corresponding constant width infrared pulses; and

a transmitter housing enclosing the microphone and modulation circuitry and upon which the at least one infrared light emitting device is mounted, wherein the transmitter housing is configured to be removably coupled to the communication apparatus such that the microphone is positioned adjacent the sound output device of the communication apparatus.

18. The apparatus of claim 17, wherein the transmitter housing is sized for positioning of the microphone adjacent a speaker of a phone apparatus.

19. The apparatus of claim 18, wherein the transmitter housing includes means for removably attaching the housing to the phone apparatus.

20. The apparatus of claim 19, wherein the attachment means includes an opening sized to fit over an end of a phone apparatus.

21. The apparatus of claim 19, wherein the attachment means includes an adjustable band element to attach the housing to a phone apparatus.

22. The apparatus of claim 17, wherein demodulation circuitry comprises:

pulse detection circuitry to convert the one or more electrical signals representative of the detected infrared pulses to one or more constant width pulses based thereon;

pulse width convertor circuitry to convert the one or more constant width pulses to one or more width modulated pulses; and

pulse width modulation circuitry to convert the one or more width modulated pulses to an audio signal for application to the speaker.

23. The apparatus of claim 22, wherein the pulse detection circuitry comprises:

a amplifier configuration to provide symmetrically opposed polarity electrical pulses corresponding to each of the one or more electrical signals representative of the detected infrared pulses; and

a comparator to generate a constant width pulse each time the symmetrically opposed polarity electrical pulses are applied thereto.

24. The apparatus of claim 22, wherein the pulse width convertor circuitry comprises a divide by two circuit.

25. The apparatus of claim 17, wherein the transmitter apparatus further comprises a sound activated power circuit to power one or more components of the transmitter upon detection of sound input.

26. The apparatus of claim 17, wherein the one or more constant width electrical pulses to drive the infrared light emitting device are less than about 2 microsecond in duration.

27. The apparatus of claim 26, wherein the one or more constant width electrical pulses to drive the infrared light emitting device are less than about 1 microsecond in duration.

28. A portable infrared receiver apparatus comprising:

an infrared light detection device to detect one or more infrared pulses and generate one or more electric signals representative of the detected infrared pulses;

a speaker;

demodulation circuitry operable to convert the one or more electric signals representative of the detected infrared pulses to an audio signal to power the speaker to produce a sound output, wherein the demodulation circuitry comprises:

pulse detection circuitry to convert the one or more electrical signals representative of the detected infrared pulses to one or more constant width pulses based thereon,

pulse width convertor circuitry to convert the one or more constant width pulses to one or more width modulated pulses, and

pulse width modulation circuitry to convert the one or more width modulated pulses to an audio signal for application to the speaker, and

a receiver housing enclosing the speaker and the demodulation circuitry and upon which the infrared light detection device is mounted, wherein the receiver housing is formed to be self-supported entirely by the ear of a user.

29. The apparatus of claim 28, wherein the receiver housing comprises an in the ear receiver housing securable within the concha of the ear, and further wherein the receiver housing includes:

a speaker portion enclosing the speaker and a power source, the speaker portion having a compactable/expandable material about at least a portion thereof to support the receiver housing in the concha of the ear, wherein the material is placed in a compacted state upon insertion in the concha of the ear and further wherein the material expands to an expanded state to hold the receiver housing in the concha of the ear upon release from the compacted state, and

an elongated portion extending from the speaker portion enclosing at least a portion of the demodulation circuitry, wherein the infrared light detection device is positioned on the elongated portion.

30. The apparatus of claim 28, wherein the receiver housing comprises a behind the ear receiver housing securable by the pinna of the ear, and further wherein the receiver housing includes:

a first portion comprising:

a behind the ear element to secure the receiver housing by the pinna of the ear, and

a speaker holding element extending from the behind the ear element, wherein the speaker holding element has an opening defined therethrough, and further wherein the speaker holding element includes speaker contacts; and

a second portion encompassing the speaker, wherein second portion is sized to be retained within the opening and includes speaker contacts for mating with the speaker contacts of the speaker holding element.

31. The apparatus of claim 30, wherein the speaker contacts of the speaker holding element are positioned on a surface defining the opening.

32. The apparatus of claim 28, wherein the demodulation circuitry comprises:

pulse detection circuitry to convert the one or more electrical signals representative of the detected infrared pulses to one or more constant width pulses based thereon;

pulse width convertor circuitry to convert the one or more constant width pulses to one or more width modulated pulses; and

pulse width modulation circuitry to convert the one or more width modulated pulses to an audio signal for application to the speaker.

33. The apparatus of claim 32, wherein the pulse detection circuitry comprises:

a amplifier configuration to provide symmetrically opposed polarity electrical pulses corresponding to each of the one or more electrical signals representative of the detected infrared pulses; and

a comparator to generate a constant width pulse each time the symmetrically opposed polarity electrical pulses are applied thereto.

34. The apparatus of claim 32, wherein the pulse width convertor circuitry comprises a divide by two circuit.

35. The apparatus of claim 32, wherein the receiver further comprises missing pulse detection circuitry comprising:

detection circuitry to detect the absence of constant width pulses; and

disable circuitry to disable one or more components of the receiver upon detection of such absence of constant width pulses.

36. A method of using a portable communication system with a phone apparatus having a sound output device, the method comprising:

providing a removable transmitter, wherein the removable transmitter comprises:

a microphone to generate an audio signal from received sound input,

a transmitter device,

modulation circuitry operable to convert the audio signal to an electrical signal to drive the transmitter device to transmit signals representative of the audio signal, and

a transmitter housing enclosing at least the microphone and modulation circuitry, and

securing the removable transmitter to the phone apparatus, wherein securing the removable transmitter to the phone apparatus includes coupling the transmitter housing to the phone communication apparatus such that the microphone is positioned adjacent the sound output device of the communication apparatus.

37. The method of claim 36, wherein providing the removable transmitter comprises:

providing a removable infrared transmitter, wherein the removable infrared transmitter comprises:

a microphone to generate an audio signal from received sound input,

at least one infrared light emitting device,

modulation circuitry operable to convert the audio signal to one or more electrical pulses to drive the infrared light emitting diode to transmit one or more corresponding infrared pulses, and

a transmitter housing enclosing the microphone and modulation circuitry and upon which the at least one infrared light emitting device is mounted.

R.136 39 ~~37~~. The method of claim 35, wherein the removable transmitter comprises an opening sized to fit over a portion of a phone apparatus, wherein securing the

removable transmitter to the phone apparatus comprises positioning the opening over the portion.

39 ~~38~~. The method of claim 37, wherein the portion of the phone apparatus is an end portion of a phone where a sound output device is located, and further wherein securing the removable transmitter to the phone apparatus comprises positioning the opening over the end of the phone.

40 ~~39~~. The method of claim 35, wherein securing the removable transmitter to the phone apparatus comprises positioning a band of the removable transmitter about a perimeter of the phone apparatus.

41 ~~40~~. The method of claim 35, wherein securing the removable transmitter to the phone apparatus comprises using a two faced adhering system to attach the removable transmitter to the phone apparatus.

42 ~~41~~. The method of claim 35, further comprising:
detaching the removable transmitter from the phone apparatus; and
securing the removable transmitter to a different phone apparatus.